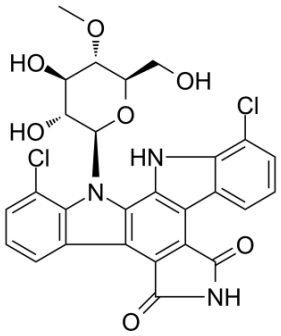
Rebeccamycin

Cat. No.:	HY-19825
CAS No.:	93908-02-2
Molecular Formula:	$C_{27}H_{21}Cl_2N_3O_7$
Molecular Weight:	570.38
Target:	Topoisomerase; ADC Cytotoxin
Pathway:	Cell Cycle/DNA Damage; Antibody-drug Conjugate/ADC Related
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Rebeccamycin, an antitumor antibiotic, inhibits DNA topoisomerase I. Rebeccamycin appears to exert its primary antineoplastic effect by poisoning topoisomerase I and has negligible effect on protein kinase C and topoisomerase II[1][2].
IC_{50} & Target	Topoisomerase I; Traditional Cytotoxic Agents
In Vitro	Rebeccamycin is an antitumor antibiotic produced by the actinomycete Saccharotrix aerocolonigenes with activity against several human tumor cell lines, including A549 (lung adenocarcinoma), HCT-116 (colon carcinoma), and KB (nasopharyngeal carcinoma) [1]. Rebeccamycin shows antibacterial activity against several Gram-positive bacteria, including Staphylococcus aureus and Streptococcus faecalis[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Rebeccamycin (2-256 mg/kg; i.p.; daily for 9 days) prolongs survival in B16 melanoma, L1210 leukemia[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	CDF1 mice (B16 melanoma, L1210 leukemia)[2]
Dosage:	2, 4, 8, 16, 32, 64, 128, 256 mg/kg
Administration:	I.p.; daily for 9 days
Result:	Prolongation of survival of the mice at dose levels ranging from 8 to 256 mg/kg.

REFERENCES

[1]. Merchant J, et al. Phase I clinical and pharmacokinetic study of NSC 655649, a rebeccamycin analogue, given in both single-dose and multiple-dose formats. Clin Cancer Res. 2002 Jul;8(7):2193-201.

[2]. Bush JA, et al. Production and biological activity of rebeccamycin, a novel antitumor agent. J Antibiot (Tokyo). 1987 May;40(5):668-78.

[3]. Sánchez C, et al. The biosynthetic gene cluster for the antitumor rebeccamycin: characterization and generation of indolocarbazole derivatives. Chem Biol. 2002 Apr;9(4):519-31.

Caution: Product has not been fully validated for medical applications. For research use only.

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